



# Green Buildings: Driving Sustainable Development in Emerging Markets

CONGRESO COLOMBIANO DE LA CONSTRUCCIÓN. 2023

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**International  
Finance Corporation**  
WORLD BANK GROUP

*Creating Markets, Creating Opportunities*

# The World Bank Group

IBRD

Loans to middle-income countries

IDA

Interest-free loans and grants to poorest countries

IFC

Solutions in private sector development

MIGA

Guarantees of foreign direct investment's non-commercial risks

ICSID

Independent tribunal for investment

IFC is the largest global development institution focused on the private sector in emerging markets



Provides investment, advisory services, resource mobilization



On the ground presence in more than 100 countries



Triple-A credit rating; owned by 186 countries



3,940 staff; 55 percent based outside Washington DC

# Our Business

## INVESTMENT

Financial products tailored to client needs

- Loans
- Equity
- Trade and Commodity Finance
- Derivatives and Structured Finance

## BLENDED FINANCE

De-risking investments to catalyze impact at scale

- Loans
- Guarantees
- Performance-based Incentives

## ADVISORY / UPSTREAM

Innovative solutions using IFC's expertise and tools

- Help Create New Markets
- Unlock Investment Opportunities
- Strengthen Clients' Performance and Impact
- Improve Environmental, Social, and Corporate Governance

## MOBILIZATION

Mobilizing and managing capital for investment

- Syndications
- IFC Asset Management Company

# ACHIEVING IFC'S CLIMATE BUSINESS AMBITIONS

Multilateral institutions such as the International Finance Corporation, collaborate with partners and stakeholders to mobilize investments, promote private sector engagement, and foster innovative tools and solutions that address climate change challenges.



**IFC**

**International  
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# WBG CLIMATE CHANGE ACTION PLAN (2021-2025)

IFC's Approach to Climate Action is about integrating climate private sector investment through upstream, mainstream and advisory services.



- 100% Paris Aligned by July 2025



- 35% average own account business over 2021-2025



- Mobilizing and Catalyzing private capital over 2021-2025

# IFC CLIMATE FRONTIER AREAS

IFC's Climate Business Department leads the development and implementation of the following "Frontier Areas", through the transformation of key Climate Change Action Plan (CCAP) sectors.



## ENERGY

- Distributed Generation
- Green Hydrogen
- Energy Storage
- Scaling Wind
- Offshore Wind
- Energy Transition



## CITIES

- EDGE and Green Retrofit
- Building Resilience Index
- APEX Green Cities



## MANUFACTURING

- Decarbonizing Heavy Industry
- Greening Supply Chains



## TRANSPORT

- E-mobility
- Low-Carbon Transportation (Rail, Road and Air)

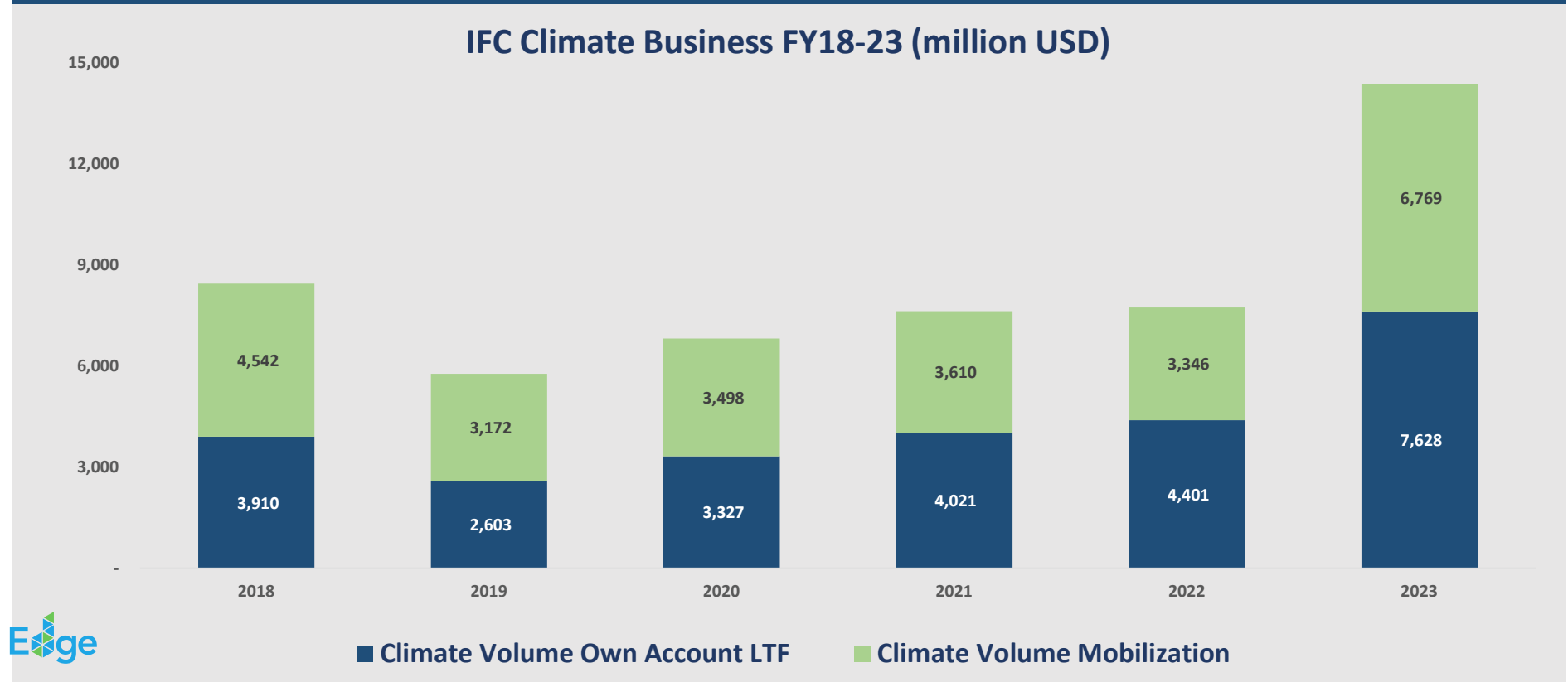


## AGRICULTURE, FOOD, WATER AND LAND

- Biodiversity and Nature Based Solution
- Circular Economy and Marine Plastic
- Agribusiness and Forestry

# IFC CLIMATE INVESTMENT VOLUME IN 2018-2023

In FY2023, IFC achieved a remarkable milestone in climate investment, recording a total of \$14.4 billion in Green Buildings, Renewable Energy, Green Hydrogen, Sustainable Forestry and E-Mobility.





# CLIMATE FINANCING TO DRIVE RESULTS

Private sector has significant resources, hence, enabling and mobilizing private climate finance will facilitate for capital to flow at requisite scale.

- Carbon Markets and Verified Emission Reductions (VER)
- Transition Finance
- Developing of Climate Financing Products (Green loans, Blue loans/bonds, Sustainability linked instruments)
- Greening the Financial Sector
- Mobilizing Concessional Resources



# IFC PROMOTES SUSTAINABLE PRACTICES

IFC innovated a complete solution to mitigate emissions and increase resilience in buildings with three proprietary products: EDGE, APEX and BRI.

The Green Buildings program offers a comprehensive, low cost, cross-industry approach for clients, governments, financial and development partners.



**EDGE**, launched 2013, provides a measurable way for builders to cost-effectively optimize designs for new build and retrofits for existing buildings. EDGE certification demonstrates 20 percent reduction in energy, water, and embodied energy in materials compared to a new “business as usual” building. EDGE also certifies levels of ambition up to Zero Carbon.



**APEX Green Cities**, launched in 2022, supports cities in emerging economies to achieve maximum benefits from investments with appropriate policies and planning measures. APEX informs the most impactful actions in cities to reduce GHG emissions, improve energy efficiency, waste management, water security, higher use of public transportation.



**Building Resilience Index (BRI)**, launched 2021, provides web-based hazard mapping and a resilience assessment framework. Helps real estate investors evaluate location-specific, seismic and climate-related risks taking into account buildings’ actual specifications. BRI creates new investment opportunities to improve resilience of buildings and cities.

Mitigation

Adaptation



# EDGE: IFC INNOVATION FOR LOW-CARBON REAL ESTATE

EDGE combines investment, advisory expertise, knowledge of local markets, and easy-to-use technological solutions with partnerships and green standards to transition buildings and cities onto a low-carbon path.

## Expertise



High level of IFC staff subject matter expertise (almost 50% technical) with 50% of the team based in the field.

## Accessibility



EDGE is available in 200 countries as a **free, easy to use**, planning and investment tool. The largest network of green building certification providers in the world delivers certification at low cost.

## Partnership and collaborations



Holistic approach engaging with all key stakeholders, such as governments, banks, developers and building owners, finance, industry and professional associations, regulatory bodies and academia.

## Cross cutting application



Strong support for development and deployment of platform from industries and regions.

## Strong Donor Support



EDGE is funded by the UK Government with original funding by Switzerland's State Secretariat for Economic Affairs (SECO) with additional support from other governments and the EU.

## A Global Standard by IFC



EDGE is approved by all green finance standards and being used by MFIs and commercial banks across the world for green building finance.

# EDGE: A RECORD OF EXPONENTIAL GROWTH AND GLOBAL IMPACT

EDGE delivered value for over 9,000 projects and 400K housing units in over 90 countries and saved over 1.3m tons of CO<sub>2</sub> per year.

**120**

Countries  
have projects  
certified\*

**63.3 m**

SQM  
CERTIFIED  
Globally

**200k**

Housing units  
certified\* in  
COLOMBIA

**14.4m**

SQM CERTIFIED  
in COLOMBIA

**12.2 B USD**

in EDGE green building  
investments

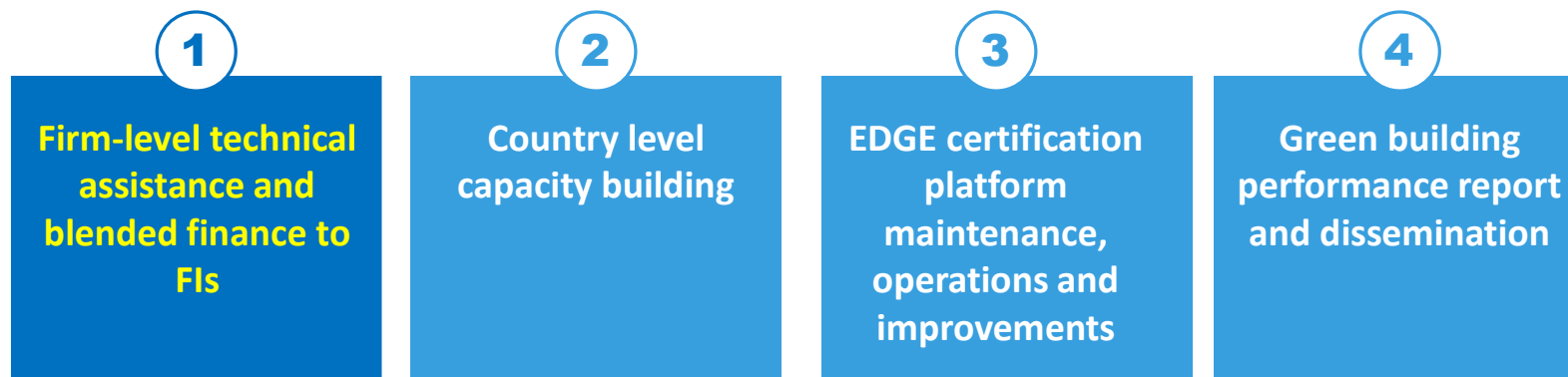


\* Cumulative results since 2015 as of September 2023

# MAGC: IFC'S PROGRAM TO ACCELERATE GREEN CONSTRUCTION

Funded by the UK Government, the goal of the Market Accelerator for Green Construction (MAGC) program is to boost the uptake of greener practices and technologies by developing countries' construction markets with a focus on FIs.

MAGC is an IFC \$134m Blended Finance facility to scale up Green Building Investments through financial institutions. MAC supports EDGE Platform, market-level activities, and research program in its target markets.



Tailored technical assistance includes: development of a Green Building business practice, access to IFC's EDGE platform/methodology, on-the-ground industry expertise to work with developers to build pipelines and manage portfolios.



# Role of Universities : PROMOTE GREEN BUILDINGS AND CREATE CAPACITIES AMONG STUDENTS, PROFESSIONALS AND STAKEHOLDERS



Designing for Greater Efficiency (DfGE) course is designed for architectural students to strengthen their skills on green building design

**Designing for Greater Efficiency (DfGE) Course**  
Learn to design and market green buildings and earn your certificate

The DfGE Course is offered by IFC, a member of the World Bank Group, to facilitate the construction sector's transition onto a low carbon path.

The DfGE course is a 16-hour course that can be taken at your own time and pace. Learners will have three months to access course materials and complete the course.

**ENROLL FOR THE ONLINE COURSE AT**  
<https://learn.edgebuildings.com/>

**Sign up for the online DfGE course today!**

DfGE is also offered through affiliated universities listed in <https://edgebuildings.com/design-for-greater-efficiency/>

DfGE is funded by Switzerland's State Secretariat for Economic Affairs (SECO), the UK Government and the EU.

**Why take the DfGE Course?**

- Develop critical thinking skills, quantitative skills, and design approaches
- Conceptualize and integrate green features across multiple disciplines and building types
- Quantify the impact of design strategies on energy, water, and embodied energy in materials using IFC's EDGE building design software
- Articulate a compelling business case for sustainable design
- Communicate design strategies and choices effectively with clients and other building stakeholders, including owners, investors, and other design team members
- Demonstrate knowledge of green measures and their relative cost-benefit implications

The screenshot displays the IFC EDGE software interface, showing various design and analysis modules. It includes a 3D model of a building, a site plan, and several data visualization charts and graphs. The interface is organized into a grid of panels, each containing different types of information such as energy performance metrics, material usage, and design recommendations.

This screenshot shows the 'ANÁLISIS ENERGÉTICO' (Energy Analysis) and 'APROXIMACIÓN AL CERTIFICADO EDGE' (EDGE Certification) modules. It features detailed energy performance charts, including bar graphs and pie charts, alongside a progress bar indicating the user's current status towards achieving EDGE certification. The interface is clean and professional, with clear labels and data points.

Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Swiss Confederation  
Federal Department of Economic Affairs,  
Education and Research EAER  
State Secretariat for Economic Affairs SECO

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# INCREASING OUR AMBITION: ZERO CARBON BUILDINGS AND PORTFOLIOS



## Level 1 - EDGE Certified

20% or more savings in energy, water, and embodied energy in materials.



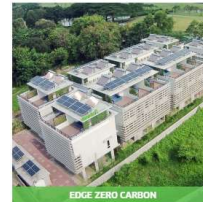
## Level 2 - EDGE Advanced

EDGE certified with 40% or more on-site energy savings.

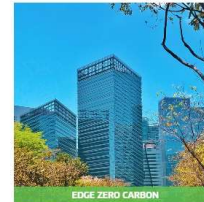


## Level 3 - Zero Carbon

EDGE Advanced with 100% renewables or purchased carbon offsets.



Ecoloft Jababeka Cikarang  
Homes in Indonesia



NEO Portfolio  
Offices in Philippines

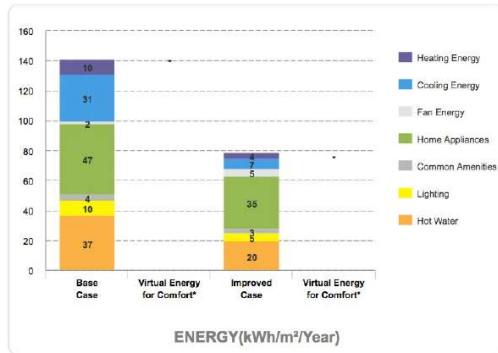


ArthaLand Century Pacific Tower  
Offices in Philippines



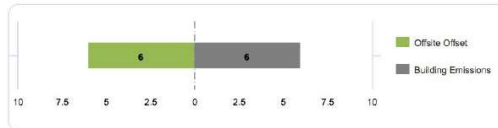
ProCredit Bank Bulgaria Head Office  
Offices in Bulgaria

45.65% Meets EDGE Energy Standard



Show the Carbon Savings

0.00 tCO<sub>2</sub>/Year Meets Zero Net Carbon Standard



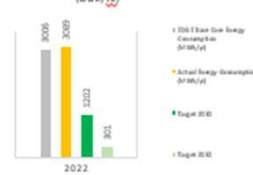
## New EDGE decarbonization pathway planning tool for portfolios (Beta version)



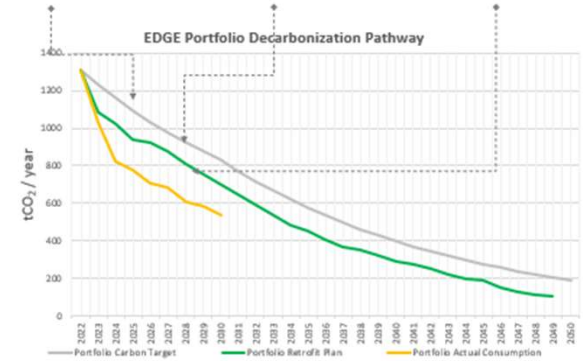
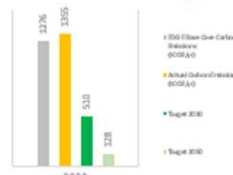
Portfolio / Project Name	Portfolio ABC
Number of Buildings	20
Starting Year (Year 0)	2022
CO <sub>2</sub> Reduction by 2030 (%)	35%*
CO <sub>2</sub> Reduction by 2050 (%)	85%*
Balance Renewable Energy Required for Zero Carbon	15%

\* Compared to EDGE case

PORTFOLIO ENERGY CONSUMPTION (MWh/Year)



PORTFOLIO CARBON EMISSIONS (tCO<sub>2</sub>/Year)





# Building Resilience Index

Building Resilience Index is an innovation of IFC, a member of the World Bank Group.



## Identify Risk

Identify applicable natural hazards and vulnerabilities based on the location and design of a building.



## Manage Risk

Explore a list of risk mitigation measures for enhancing the physical integrity and operational continuity of a building.



## Disclose Risk

Communicate the resilience of a building by using a standardized letter grade rating system.



### WIND

*air motion*

Downburst  
Tornado  
Storm



### WATER

*liquid motion*

Local/Urban Flooding  
Coastal/Tidal Flooding  
River/Lake Flooding  
Flash Flooding  
Storm Surge  
Tsunami



### FIRE

*rapid oxidation*

Local Fire  
Wildfire



### GEO-SEISMIC

*ground motion*

Subsidence  
Volcano  
Landslide  
Earthquake



## PHYSICAL INTEGRITY

RATING	QUESTION	RESPONSE	COSTS (US\$)	
			DEFAULT	PROJECT
C	WT13. Sealed Openings	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	500,000	500,000
^ Hide Description The windows and doors are properly installed and sealed to prevent rainwater from infiltrating to the building's interior. + Add Comment				
B	WT14. Backflow Valves	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	300,000	300,000
^ Hide Description If the ground elevation is less than 5 m above sea/lake/river level, backflow valves are installed to wastewater/sewage flow lines to prevent backflow during flooding. + Add Comment				



## OPERATIONAL CONTINUITY



\* Probable Maximum Loss (PML) current replacement cost, including structural and equipment, excluding operational costs

# IFC's APEX: INVESTMENT PLANNING FOR CITIES



Identify investments suitable for green financing

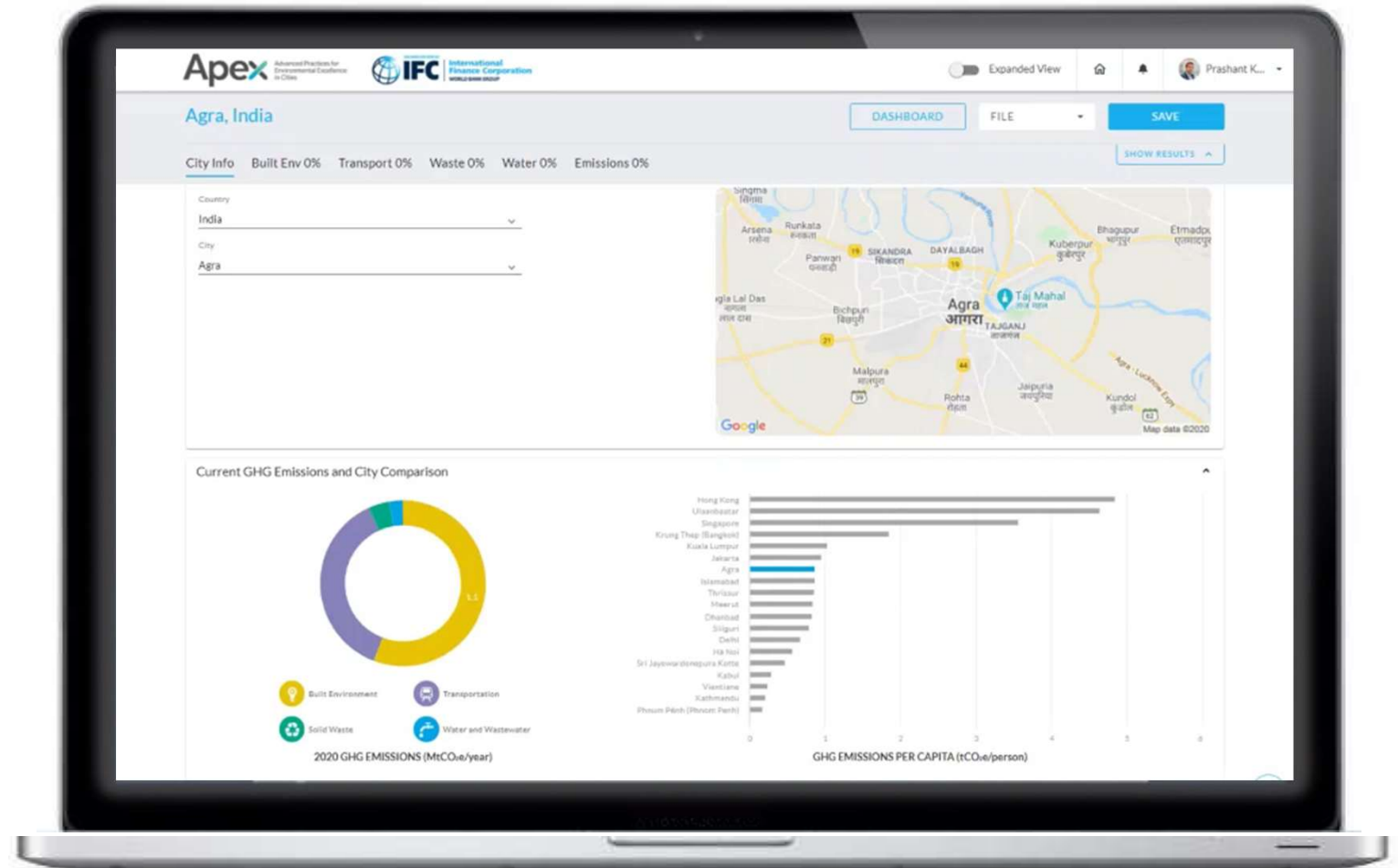


Develop strategies for the long-term (e.g., Climate Actions Plans)



Assess, compare and track the performance of the cities

[www.apexcities.com](http://www.apexcities.com)



An innovation of IFC, APEX tool informs the most impactful actions in cities to reduce GHG emissions, improve energy efficiency, waste management, water security, higher use of public transportation.





# LOOKING AHEAD

## Strategic Guidance on Prioritizing for the Path Forward

- Where should IFC lean-in more in the five CCAP focus areas (i.e., energy, cities, transport, manufacturing, agribusiness) as well as in the “frontier areas” mentioned above?
- Where do you want to help us lean in—new products and platforms, client engagement, external stakeholders?
- How do we further expanding climate finance opportunities through enabling environment, innovations and new instruments?
- How do we collaborate more effectively with MDBs to amplify our knowledge and financing support?

EDGE is currently funded by the UK Government with original funding by Switzerland's State Secretariat for Economic Affairs (SECO)



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Federal Department of Economic Affairs,  
Education and Research EAER  
State Secretariat for Economic Affairs SECO

Swiss Confederation

Additional support has been provided by Austria, Canada, Denmark, ESMAP, EU, Finland, GEF, Hungary, Japan and the Netherlands.



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